6. Holden

Program Name: Holden.java **Input File: holden.dat**

Holden is the main character in a video game you've been playing recently. He is the captain of a spaceship, and has to travel the universe helping people who are in trouble. You have decided that you want to determine the most optimal route to get between different areas in the universe (least possible distance travelled). You will only move directly between places in a straight line, but some of these direct routes must be avoided, due to piracy, black holes, strange creatures etc. You are also limited by the amount of fuel you have, so you can only travel a certain distance. You may not always be in the same ship, so your gas capacity may change. You travel 1 unit per gallon of fuel.

Input: The input will begin with three integers, `n` (`0 < n <= 1000`), denoting the number of test cases to follow, s (`0 < s <= 1000`), denoting the number of stations you know of, and `b` (`0 < n <= 1000`), denoting the number of paths that are blocked by spatial phenomena. Each of the following `s` lines will each contain a string, the name of the station, followed by 3 space separated floating point numbers, `x`, `y`, and `z`, denoting the spatial coordinates of the station. The next `b` lines will each contain a pair of space separated names of space stations, denoting a path that is blocked. The following `n` lines will each contain a pair of space separated names of space stations for you to find the shortest path between, followed by a space separated integer, `g`, denoting how much fuel your ship currently has. You will start from the station whose name is given first.

Output: For each test case, output the shortest possible distance needed to travel between the two given stations, rounded to two decimal places and with commas in the appropriate places. If it is not possible to get between the two stations, output "`Stuck in the Slow Zone.`". If you skate into a station exactly as you run out of fuel, you make it.

Sample input:

```
3 4 2
Ceres -1334.29 -1239.23 -12.43
Europa 2489.29 1948.01 39.23
Medina 2000.02 -1212.12 -1.34
Ganymede -843.23 999.99 123.43
Medina Europa
Ganymede Europa
Ceres Medina 3500
Europa Medina 1000
Ganymede Europa 7500
```

Sample output:

```
3,334.44
Stuck in the Slow Zone.
7,274.50
```